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ABSTRACT

The purpose of this survey was to determine the environmental education activities being conducted in Asia and plan ways in which the World Wildlife Fund, the Smithsonian Institution, and other international, private, or government agencies working on conservation can best assist the expansion, development, and implementation of environmental programs in Asia. This document contains summary results; a discussion of the methods, programs, audiences, objectives, and limitations of the study; a narrative summary of the results; a numerical description of results and statistics; respondent comments; and a copy of the survey. Recommendations are addressed in terms of training and educational materials. (CW)

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ED325381

A Survey of the Status and Needs of Environmental Education in Asia

WWF Asia Program, July 1990

Summary Results

Introduction

What is the status of environmental education in Asia? What can be done to promote and expand environmental education in this part of the world? To answer these questions, the Asia Program of World Wildlife Fund conducted a survey of environmental education activities and needs in Asia during 1989-90. The purpose of the survey was to determine the current environmental education activities being conducted in Asia and plan ways in which WWF, the Smithsonian Institution, and other international private or governmental agencies active in conservation can best assist the expansion, development, and implementation of environmental education in Asia.

Research Questions

To summarize, the specific questions addressed by this survey were:

1) Who is conducting environmental education programs and activities in Asia, and what are the characteristics of these organizations?

2) What types of environmental education ativities and programs are currently being conducted in Asia?
   a. Who are the target audiences of these programs?
   b. What are the objectives of these programs?
   c. Which environmental education methods are being successfully used?

3) What are the critical needs of organizations conducting environmental education in order to further their efforts?
   a. What limitations do these organizations face?
   b. How can these difficulties be overcome?
   c. What kinds of support do these organizations need?

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Methods

This survey used a mailed questionnaire developed by staff of World Wildlife Fund with external assistance and review. After revision, the final ten page questionnaire consisted of 19 questions. Most of the questions were close-ended with participants selecting from a list of responses, however, space was included for comments on many of the questions.

A mailing list of 200 environmental organizations was generated using several directories of environmental organizations in Asia, and the contacts of both WWFUS and WWF National Organizations in Asia, the Smithsonian Institution, and others. Environmental organizations known or thought to be currently conducting environmental education activities were chosen to participate in the survey, although certainly not all organizations conducting environmental education were contacted.

The questionnaire was mailed in November 1989 with a cover letter explaining the purpose of the survey, providing instructions on how to complete and return the survey, and offering respondents copies of the final results, a WWF calendar, and possible assistance in environmental education efforts. Respondents were asked to return the questionnaire by March 1, 1990.

Of the two hundred surveys initially sent, seventy were returned for a response rate of 35%. The 70 completed surveys were received from 15 different countries. The greatest number were returned from India (20), followed by Thailand (8), the Philippines (8), Malaysia (7), and Hong Kong (6).

Conclusions

Based on the stated purpose and results of the survey, the following conclusions are drawn concerning the characteristics, programs, objectives, audiences, methods, limitations, and critical support needs of organizations currently conducting environmental education activities in Asia.

A. Characteristics of Organizations

The majority of organizations conducting environmental education activities in Asia represent some type of non-governmental organization rather than a government resource agency or formal or non-formal educational institution. Half of these organizations have been conducting activities for more than five years.

Generally, these organziations are small with 10 or fewer paid staff, and many reporting a paid staff of only two. These

organizations seem to rely heavily on volunteers for staffing with the number of volunteers frequently outnumbering paid staff.

The budgets of these organizations are also small (by US standards) with half spending US$ 5,000 - 10,000 or less per year. In addition, less than 30% of their resources are devoted to environmental education activities.

B. Programs, Audiences, Objectives, and Methods

For almost all of the respondents, environmental education is important in the organization's overall program. Public awareness is the primary program emphasis. Formal education (primary and secondary school) and nonformal education (museums, youth groups, zoos, nature walks, park visits, etc.) are also important program types.

The audiences being targeted by these organizations are middle and secondary school students, primary school students, and those over 18 years of age with little formal education. The majority of organizations are trying to reach school students and the general public with teachers and rural residents/resource users also being important audiences. Geographically, the organizations are trying to reach rural villages and communities, both large and small cities, and those living adjacent to protected areas and preserves.

The primary objectives identified by these organiztions for their environmental education activities were to:

1) make people more aware of the environment and their relationship to it;
2) improve the quality of life and ensure sustainable resource use for future generations;
3) influence people's attitudes towards the environment/wildlife; and
4) encourage positive activities with long-term benefits.

The environmental education methods or tools most frequently used by these organizations were also those seen as being most successful. These included printed materials, audio-visual materials, public lectures, mass-media, and field-trips and excursions.

C. Limitations and Critical Needs

The most important factors organizations viewed as limiting their ability to conduct environmental education activities were:

1) insufficient funding;
2) lack of training opportunities for staff;
3) lack of equipment and supplies; and
4) lack of staff.

The factors organizations felt were most significant in contributing to the success of their activities were:

1) quality of staff;
2) access to good information and education techniques;
3) cooperation with local communities; and
4) cooperation between organizations or individuals from other organizations.

The types of support organizations reported needing the most included:

1) access to training opportunities;
2) funding for specific educational projects;
3) educational materials;
4) training in program design and development;
5) additional hired staff;
6) equipment and supplies (mostly audiovisual needs); and
7) training in how to conduct environmental education workshops for community leaders and teachers.

In terms of environmental education needs and institutional development, the organizations need assistance in design and implementation of environmental education materials and programs, environmental education teaching skills, and administrative skills.

Most of the organizations reported that their staff infrequently or almost never receive training in environmental education yet nearly all the organizations felt that training is either effective or very effective in preparing staff to conduct environmental education activities. The most common type of training in which staff had participated included discussion with colleagues and professionals, followed by informal self improvement or on-the-job training, and workshops, study-tours, or seminars in country.

Recommendations

The critical needs of environmental education organizations in Asia as indicated by this survey are for funding, training, staffing, equipment and supplies, and educational materials. Organizations indicated that lack of funding, training, staff, and equipment and supplies most limited their efforts. It should be noted that these needs are interrelated; increased funding might allow for additional staff or for purchase of equipment, increased training or better equipment might make present staff levels more effective, and so forth.

Organizations also indicated needing to develop teaching and administrative skills, again, reflecting a need for training.

The following discussion is based on the critical needs identified by this survey and the insightful comments made by other organizations concerning environmental education in Asia.

A. Training

Many organizations attributed their successes to the quality of their staff and access to good information and education techniques. Training has the potential to both improve staff quality and increase their knowledge and skills, making present staff more effective.

Based on respondent's statements, training should focus on:

1) the design, development, and implementation of environmental education materials and programs;
2) developing environmental education teaching skills;
3) developing administrative skills; and
4) conducting environmental education workshops for community leaders and teachers.

1. Workshops

The type of formal training most frequently received by education staff was in-country workshops, seminars, and study tours. This type of training was also seen as being very effective in preparing staff to conduct environmental education programs. Whether organizations most frequently participated in this type of training because of its perceived effectiveness or because of its availability to them can not be answered by this survey.

In-country workshops may be less expensive and involve less travel, logistical arrangements, and time commitment than other training options such as workshops and seminars abroad or formal degree studies at domestic or foreign universities. Another advantage of in-country workshops is that they allow the workshop to be localised to the environment and specific educational needs of that country. Many respondents indicated that environmental education must be locally relevant, and this is true as well of the education that environmental educators themselves receive.

2. Access to Training

The cost involved in attending the workshop may be critical for those organizations with insufficient funding or small budgets who may also have a great need for training. The time staff will need to commit to the training session may be a factor to organizations who already see themselves as understaffed.

Organizations need information about workshops and other training opportunities available to them well in advance in order

to make arrangements to attend. Many organizations indicated needing knowledge of when and where training is conducted and funding to attend.

3. Networking

Many organizations attributed their success in part to cooperation between organizations or with individuals from other organizations. Many indicated a desire for increased exchange of information and techniques between organizations and increased contact and coordination with other organizations. Discussions with colleagues and professionals was cited as the most frequent type of training in which staff had participated.

Allowing for and facilitating such coordination, cooperation, and discussion should be an important component of any training workshop. This could be accomplished by scheduling free time into the workshop or conference to allow participants to interact, by arranging an informational fair in which participants could display and distribute information about their own programs as well as obtain information and materials from other groups, or by having participants present workshop sessions describing their eductional efforts and successes.

Another method for encouraging cooperation and exchange of information would be through exchanges of personnel between organizations. Exchange programs could include study tours, internships, or simply visits to observe each other's programs. Exchange of personnel with other organizations may not be seen as possible by those with only a few staff, however, such exchanges need not involve a long time commitment.

B. Educational Materials

Many organizations indicated a need for educational materials and publications. In their comments, they requested information on available publications, low cost educational materials, copyright free publications, films and videotapes, books, periodicals, and other materials. The organizations also expressed a need for training in how to develop such materials.

The comments of many respondents stressed that such educational materials must be locally relevant, locally developed, and printed in or translated to local languages. One respondent stated "We have found that educational materials must be developed locally. The process is part of the education. But, we need to have the ability and capacity/resources to produce these materials (audio-visual/printed matter/hands-on or do-it-yourself projects)."

1. Information Clearinghouse

Several organizations suggested the possibility of developing a clearinghouse, information network, or resource center which would allow the exchange of information and sharing of resources. Possible locations for such a resource center might be the reference library of an international environmental organization such as World Wildlife Fund, Conservation International, or The International Society for Environmental Education, or the ERIC/SMEAC (Educational Resources Information Clearinghouse for Science, Mathematics, and Environmental Education) system at The Ohio State University, Columbus, Ohio.

Such a clearinghouse might also provide up-to-date information on training opportunities and available educational materials to participating organizations via a newsletter. The existence of current newsletters or channels for such exchange should be investigated. For example, newsletters such as Connect, published by the United Nations Educational, Scientific, and Cultural Organization (UNESCO), or The Biosphere, published by the International Society for Environmental Education might be used.

2. Resource Bibliography

Another possibility for providing organizations with information on available publications and materials might be a periodic listing of publications related to environmental issues and education from around the world with contact addresses for obtaining the materials. A brief bibliography including the materials and resources suggested by respondents as being useful and other materials added by WWF has prepared as a result of this survey (appendix IV). This bibliography could be periodically updated and expanded as new materials become available. The clearinghouse proposed above would provide one method for updating this list of available materials.

3. Educational Materials Exchange

Educational materials and publications might be offered to developing countries at a reduced, and therefore more affordable, rate. Some publications might even be offered for free to environmental education organzations in developing countries.

Another way organizations might obtain educational materials inexpensively or for free would be for them to exchange the newsletters, curriculum materials, and other publications they produce with other environmental education organizations within their country or region. This would represent a more informal type of clearinghouse than that proposed above. In addition to exchanging publications with each other, organizations could send copies of the materials they produce to a more formal

clearinghouse.

4. Environmental Education Directory

One possiblity for encouraging the exchange of resources, and even of personnel for training purposes, would be the development of a directory of environmental education organizations in Asia including contact address and a brief statement of the organization's purpose or principle programs and goals. This directory might be patterned after The Conservation Directory published by the National Wildlife Federation, or the Directory of Environmental NGOs in the Asia Pacific Region published by APPEN, Malaysia. Such a directory could include non-governmental, governmental, and other agencies conducting environmental education. It might be developed on a country-by-country or regional basis.

Summary

This survey has described the current status of environmental education in Asia in terms of programs and activities conducted, target audiences, objectives, and methods used, and the characteristics of the organizations conducting these activities. The survey has identified the limitations and critical needs facing these organizations and has suggested some ways in which environmental education efforts can be supported and encouraged in Asia. As one survey respondent stated, "environmental education is essential for nature conservation. There can be no competition in environmental education. The harvest is big, the reapers are few."

# # #

Additional information concerning this survey is available from The Asia Program, World Wildlife Fund, 1250 Twenty-Fourth Street, NW, Washington, DC 20037 USA. Tel. 202/778-9633; Fax. 202/223-6791. Please note that the following appendixes are available to supplement the summary.

I. Appendix - Narrative Summary of Results and Statistics
II. Appendix - Numerical Description of Results and Statistics
III. Appendix - Respondent Comments
IV. Appendix - Bibliography of Environmental Education Resources
V. Appendix - Survey Questionnaire

The survey and results have been compiled by Emilie Mead, Asia Program Officer, WWF, and Christine Brothers, education consultant to WWF.

A Survey of the Status and Needs of Environmental Education in Asia

Narrative Summary of Results

The majority of 70 respondents represented a non-governmental organization (40), with 11 representing a government resource agency. The remainder represented other types of formal or non-formal educational organizations.

Of the 70 respondents, 58 rated environmental education as very important in their organization and 10 rated it as moderately important. Only one rated environmental education as unimportant.

The size of the staffs of the responding organizations varied widely. Paid staff ranged from 1 to 300 and volunteer staff ranged from 1 to 7000. The majority of the organizations (46) had 10 or fewer paid staff with 35 of these reporting 5 or fewer staff. Only four organizations reported having 50 or more paid staff. The average number of paid staff for all organziations was 14. However, these numbers were skewed by a few relatively large organizations. The most frequently reported number of paid staff was two. Half the organizations had four or more paid staff, and half had four or fewer.

The number of volunteer staff was evenly split among 10 or fewer, 11 to 50, or more than 50 with 14 or 15 respondents reporting in each category. The average number of volunteer staff for all organizations was 93. The most frequently reported number of volunteer staff was 10. Half the organizations had 15 or more volunteers, and half had fifteen or fewer.

Seventeen organizations reported spending US$ 1,000 - 4,999 annually on environmental education, 12 reported spending US$ 5,000 - 9,999, and 11 reported spending US$ 0 - 499. Half of the organizations spent US$ 5,000 - 10,000 or less and half spent that amount or more per year. The most frequent response was US$ 1,000 - 4,999 per year.

Half the organizations reported devoting 30% or more of their resources to environmental education activities and half devoted less than this amount. While the most frequent response was 0 - 10%, five organizations reported devoting 91 - 100% of their resources to environmental education.

Half of the organizations have conducted environmental education activities for five years, with half conducting programs for less than that time. The most frequent response (25) was 3 to 5 years with 22 organizations reporting having conducted programs for 10 or more years.

When asked to estimate the percent of their efforts devoted to various program types, 60 respondents cited spending at least some effort on public awareness, 43 on informing government officials, legislators and decision-makers, 41 on non-formal education, and 37 each on primary/secondary education and training community leaders. Twenty-three percent of the organizations spent the greatest percentage of their efforts on public awareness, 17% on primary/secondary education, and 10% on non-formal education.

The majority of organizations reported trying to reach middle and secondary school students (52) or primary school students (40). Another important audience was those over 18 years of age with little formal education, with 43 organizations reporting trying to reach this audience. Relatively few were trying to reach preschoolers (11). Forty-seven organizations reported trying to reach rural viallages and communities, 40 reported large cities, 36 small cities, and 35 those living adjacent to protected areas or nature reserves. Relatively few were trying to reach rural remote areas (20). The majority reported trying to reach students (53) and the general public (52). Other important target audiences included teachers (48) and rural residents and resource users (38).

Respondents were asked to identify the one most significant reason they were trying to reach these audiences, however, many respondents checked more than one response. Tabulating all of the reasons respondents checked and counting the responses from only those respondents who checked one primary reason gave the same pattern of results. Forty-four respondents cited "make people more aware of the environment and their relationship to it," while 16 chose those this as their primary reason. Thirty-seven cited "improve the quality of life and ensure sustainable resource use for future generations," while 11 chose this as their primary reason. Thirty-six respondents cited "influence people's attitudes towards the environment/wildlife," while 8 chose this as their primary reason. Thirty-two respondents cited "encourage positive activities with long term benefits," while 7 chose this as their primary reason.

The environmental education tools most frequently used by respondents included printed materials (50), audio-visual materials (45), public lectures (41), mass media (40), field trips and excursions (34), and contests (30). Of the tools used, respondents felt the most successful ones were audio-visual materials (24), printed materials (18), mass media (17), public lectures (15), and field trips (13).

Thirty-two respondents felt the most significant factor in contributing to the success of their activities was the "quality of staff." Twenty-six each cited "access to good information and education techniques" and cooperation with local communities" followed by "cooperation between organizations or individuals from other organizations" (24).

Nineteen percent of respondents reported that their staff frequently receives training in environmental education. However, 69% reported that staff infrequently or almost never recieve training in environmental education. Despite this, 60 of the 63 respondents answering a question on the effectiveness of training felt it was effective or very effective in preparing staff to conduct environmental education programs.

The majority of respondents reported that staff had received training through discussion with colleagues and professionals (53), followed by informal self improvement of on the job training (44), and workshops, study-tours, or seminars in-country (43). Seven reported that staff had received no training. The three respondents who felt that training has been fairly ineffective or not effective cited discussions and informal self improvement or on-the-job training as the type of training they had received.

The four factors organizations most frequently reported as limiting their ability to conduct environmental education activities included insufficient funding (40), lack of training opportunities for staff (33), lack of equipment and supplies (29), and lack of staff (27).

The four types of support organizations most frequently reported needing included access to training opportunities (26), funding for specific educational projects (26), educational materials (23), and training in program design and development (22). Other types of support frequently cited included additional hired staff (20), equipment and supplies (19), and training in how to conduct environmental education workshops for community leaders and teachers (19). As far as the equipment and supplies needed, respondents primarily listed audio-visual equipment and supplies, especially video equipment. Several also mentionned some form of vehicle for transport.

To a question asking what is most needed for the organization to develop and improve its environmental education programs, the most frequent response was "design and implementation of environmental education materials and programs" (45). This was followed by "environmental education teaching skills" (41) and administrative skills (31).

A Survey of the Status and Needs of Environmental Education in Asia

Numerical Description of Results and Statistics

Countries responding:

	Total Number
Indonesia	3
Hong Kong	6
India	20
Nepal	4
Bhutan	1
Thailand	8
Bangladesh	2
Pakistan	3
Philippines	8
Sri Lanka	1
American Samoa	1
Malaysia	8
Japan	2
Singapore	1

Question 1. Indicate the type of organization you represent (select only one).

	Frequency
Formal education institution	4
Non-formal education institution (nature reserve/national park)	2
Non-formal education institution (zoo/botanical garden)	4
Government resource management/ policy agency	11
Non-governmental organization	40
Other (museum, activitist, USAID, professional group, UNEP, CARE)	7
No response	2
Total	70

Question 2. How important is environmental education in your organization's overall program?

	Frequency
Very Important	58
Moderately important	10
Not important	1
No response	1
Total	70

Question 3. How many people (both salaried and volunteer) conduct your organization's environmental education activities?

	Paid	Volunteer
<= 10	46	14
11 - 50	8	14
51+	4	15
Range	1-300	1-7000 (800)
Mode	2	
Mean	14 (excluding 300)	93 (excluding 7000)

Question 4. How much does your organization spend (approximately) each year on environmental education (including donated services).

	Frequency
US$ 0 -499	11
US$ 500 - 999	3
US$ 1,000 -4,999	17
US$ 5,000 - 9,999	12
US$ 10,000 - 19,999	8
US$ 20,000 - 49,999	2
US$ 50,000 - 99,999	8
US$ 100,000+	7

Mode	1,000 - 4,999
Median	5,000 - 10,000

Comments:
22) The value of donated services is too high to be valued.

Question 5. Please estimate what percent of your organization's resources (money, staff, and volunteer hours) are devoted to environmental education activities.

	Frequency
0 - 10%	18
11 - 20%	9
21 - 30%	8
31 - 40%	6
41 - 50%	7
51 - 60%	2
61 - 70%	4
71 - 80%	4
81 - 90%	0
91 - 100%	5
No response	7
Total	70

Mode 0 - 10% Median 30%

Question 6. How long has your organization conducted environmental education programs?

	Frequency
Less than one year	1
1 - 2 years	9
3 - 5 years	25
5 - 10 years	13
10+ years	22

Mode 3 - 5 years Median 5 years

Question 7. Please estimate what percent of your environmental education effort is devoted to the following types of programs. (Total should add to 100%).

	Frequency	Greatest %
Public awareness (newspaper, radio, t.v. posters, etc.)	60	23
Formal education (primary or secondary school)	37	17
Formal education (university level)	23	2
Teacher training	34	3
Training of community leaders	37	7
Informing government officials, legislators, and decision makers	43	3
Non-formal education (museums, youth groups, zoos, nature walks, park visits, etc.)	41	10
Others, please specify:	22	7

Frequency = the number of organizations who devote some effort to this program type.
Greatest % = the number of organizations indicating they spend the greatest percent of their effort in this program type.

Other program types cited included:
Human resources, seminars, talk programs, curriculum development, community awareness workshops, reforestation, sustainable agriculture, educational materials, environmental camps, talks to schools and community organizations, plays on environmental resources, exhibits, tours, government committees on environmental awareness, women's groups, training ecocell members, field work, community and political leaders, volunteers and unionists, exhibitions, camps, syposia, films, displays, rural action groups, and workshops for teachers and students.

Rank in order of number of organizations spending the greatest percentage of their efforts on this program type.

	Frequency
Public Awareness	23
Primary/Secondary	17
Nonformal	10
Community Leaders	7
Other	7
Teacher Training	3
Government	3
University	2

Rank in order of total number of organizations citing this type of program.

	Frequency
Public Awareness	60
Government	43
Nonformal	41
Primary/Secondary	37
Community Leaders	37
Teacher Training	34
University	23
Other	22

Question 8. What audiences are you trying to reach? Please check the apprpriate answers from the following lists.

	Frequency
Age/School level	
Pre-school	11
Primary school	40
Middle/secondary school	52
University level and higher	38
Under 18 years of age with little formal education	34
Over 18 years of age with little formal education	43
Geographical location	
Urban: large city	40
Urban: small city	36
Rural: villages/communities	47
Rural: remote	20
Adjacent to protected areas or nature reserves	35
Profession or Occupation	
Rural resident or resource user (farmer, fishermen, etc.)	38
Government official	33
General public	52
Community leader	35
Teacher	48
Professional (administrator, manager, scientist, etc.)	27
Student	53
Other, please specify:	29

Other audiences specified included:
Journalists and media, women's groups, forest dwellers, rural youth, legislators and planners, farmers, NGO's, writers and artists, religious community, military, business people, college level counselor trainees, industrialists, tourists/visitors, government agencies, universities/colleges, youth.

Question 9. The primary reason you are trying to reach these audiences is to: (please check the one most significant reason.)

	Most	All
Provide accurate information about the environment/wildlife.	2	23
Provide scientific information or data.	1	13
Make people more aware of the environment and their realtionship to it.	16	44
Influence people's attitudes towards the environment/wildlife.	8	36
Encourage positive activities with long-term benefits (i.e. tree planting on hillsides).	7	32
Modify activities that have negative environmental impacts.	0	21
Improve the quality of life and ensure sustainable resource use for future generations.	11	37
Solve specific environmental problems.	0	13
Enact legislation to protect resources.	1	11
Enforce environmental protection laws.	0	12
Protect endangered species.	0	17
Other, such as:	0	5

Most = the one most significant reason indicated by respondent.
All = all of the reasons indicated by respondents.

Other reasons cited included:
Form local units to take responsibility for activities.
Campaign to save forests by resisting nuclear and other power projects being put there.
Ratify international conventions.
Distribute environment magazine to 15,000 primary schools

Question 10. Below is a list of common environmental education tools. Please check the tools that your organization has used most frequently. Question 10a. Please look back over the previous list and circle the four tools that you feel have been most successful.

	Most	All
Printed materials (posters, brochures, etc.)	18	50
Newsletters	11	29
Direct mail	2	12
Audio visual materials (slide programs, videos)	24	45
Mass media (radio, t.v., newspapers)	17	40
Information center or clearinghouse	5	17
Exhibits in nature center, museum, zoo, or other public place	8	25

Traveling/mobile exhibits and programs	1	13
Public lectures	15	41
Events (theatre plays, puppet shows, concerts)	2	12
Contests (song, art, essay, photography, poetry)	10	30
Community surveys	2	10
Community meetings	10	28
Interpretive activities (such as guided nature walks)	9	18
Field trips, excursions to natural areas	13	34
Activities (such as reforestation, protect an endangered species, garbage collection, etc.)	6	24
Classroom activities (indoors or outdoors)	6	28
School curricula or teacher guides	9	23
Others, please specify:	14	30

Most = those tools selected as the four most successful by respondents.
All = all tools selected as used by respondents.

Other tools cited included:
Teacher workshops
Eco/development camps for youth
Symposia/training workshops
Resource assessments
Dramatic arts
Environmental campaigns
Rallies and marches
Symposia for students
Seminars for community and church leaders and teachers
Training materials
Visiting and interviewing successful villagers and older residents
Hands-on equipment (microscopes, binoculars)
Conferences, workshops, and seminars
Displays
Organization magazines
One-on-one communication
Liason with government
Education centers for school children
Education of chapter leaders
Rural exhibitions
Quarterly journals.

Question 11. Which one or two of the following factors do you feel were most significant in contributing to the success of your environmental edcuation activities?

	Frequency
Ability to conduct effective training sessions	20
Access to good information and education techniques	26
Quality of publications or audio-visual materials	18
Quality of staff	32
Cooperation between organizations or individuals from other organizations	24
Cooperation with local communities	26
Ability of local organizations to continue project	3
Continuity of activities	12
Effective follow-up activities	15
Other:	3

Other responses included:
Credibility of the organization and people involved
Good management in preparing the program
Incorporation of conservation education activities in the school system

Question 12. How often does your staff receive training in environmental education?

	Frequency	Percent
Frequently	13	19%
Infrequently	34	49%
Almost never	14	20%
No response	9	12%

Comments:
5) We are all self-educated in environmental activities. We don't feel a great need for training. It has also the danger of homogenizing activities and inhibiting spontaneity and initiatives. Training may be useful in getting institutionalized.
22) We read extensively and are capable of absorbing a lot of it.
30) Often enough by attending workshops/seminars for paid staff. We can call on a number of knowledgeable and experienced persons as resource speakers for the seminars we conduct.
55) Almost never for mobile education program mangaed directly under the Executive Director.

Question 13. Which of the following kinds of training in environmental education has your education staff (paid and/or volunteer) received?

	Frequency
Formal degree studies at foreign universities	8
Formal degree studies at domestic universities	13
Workshops, study-tours, or seminars in-country	43
Workshops, study-tours, or seminars abroad	21
Informal: self improvement or on-the-job	44
Inservice training program	17
Exchange program with another conservation organization working on similar projects	17
Discussions with colleagues, professionals	53
No training	7

Question 14. From your experience, how effective is the training listed above in preparing the staff to conduct environmental education programs?

	Frequency
Very effective	15
Effective	45
No difference	0
Fairly ineffective	3
Not effective	3
No response	7

Comments:
7) Formal degree studies at foreign universities will be vital
31) Not adequate
34) A lot depends on the individual's interests and creativity
46) There is no basis for comparison

Question 15. Please indicate from the following list the four most important factors that limit your organization's ability to conduct environmental education activities.

	Frequency
Low priority of environmental education within organization	10
Insufficient funding	40
Lack of fundraising capacity	21
Lack of staff	27
Lack of training opportunities for staff	33
Low level of environmental expertise among staff	19
High rate of turnover of staff or volunteers	6
Lack of communication or coordination between organizations	12
Difficulties working with other groups	3
Lack of environmental awareness among the public	25
Lack of buildings or facilities	17
Lack of equipment and supplies	29
Others, please specifiy:	17

Other factors specified included:

9) Attitudes of governmental organizations/international agencies

13) Lack of documented information about local environment

21) Lack of political will

22) We are all in other jobs but we want to continue in them and be volunteers for environmental educaiton activities

29) Simply space for the volunteers - 10 "hard core" workers and those who pitch in for specific projects

30) It is very difficult to get deeply committed persons/professionals to promote ecological consciousness and stay on the job for 3 to 5 years

34) If we could establish a good i.e. well facilitated training house, library and resource center, our work could greatly be enhanced. Long term funding is not available.

40) Lack of good quality, experienced staff

45) Illiteracy, social barriers like caste, traditions, etc.

46) Level of understanding of environmental matters are different per group so the program should be adaptable.

53) Low priority of environmental education while comparing to health and social education

54) Lack of funds and full time staff (regular staff)

55) Difficulties in having local staff willing to work under terms of service of WWF

63) None of the above - we are satisfied with the current levels as we are basically an ? (could not read) organization.

64) Good films on wildlife, conservation, environment, etc. have to be borrowed from others from far away places. Nonavailability of good slides, generator (portable), video

66) Low level of cooperation from professional institutions and fairly high charges

Question 16. Indicate the four most important types of support your organization needs to address the difficulties checked above. Please rank 1-4 in order of importance (1 being most important).

Rank	1	2	3	4	Total
Personnel exchanges with other conservation groups	2	1			8
Information on activities of other groups with similar programs	1		3	2	11
Increased contact and coordination with other groups	1	4	1	4	13
Assistance improving your group's organization/ structure	8				12
Training in program design and development	6	4	3	3	22
Program evaluation		2	1	1	5
Training in fund raising		1	2	4	11
Training in how to conduct e.e. workshops for community leaders and teachers	2	3	4	3	19
Advanced staff training at a university	1	2	3	1	10
Access to training opportunities (funding to attend; knowledge of when and where training is conducted)	8	6	3	2	26
Access to information on available resources	1	2	1	3	12
Educational materials (curricula, books, videos)	3	3	3	4	23
Development and distribution of publications		1	2	1	7
Ability to design and produce graphic and interpretive displays		1	2	5	10
Ability to produce films, slide shows, videos		2	1	3	10
Equipment and supplies	1		7	4	19
Additional hired staff	3	2	3	2	20
Additional volunteer staff		2	1		5
Funding for specific educational projects	5	4	3	5	26
Other:		1		1	2

Rank 1-4 = the number of respondents who ranked this choice 1, 2, 3, or 4.
Total = the total number of respondents who chose this category, whether ranked 1-4 or unranked (simply checked).

Other types of support included:
Office building needed.
Long term funding is not assured; at present we work on a camp to camp basis.

Equipment and supplies needed included:
Vehicles, audio-visual equipment, slide projectors, t.v., camera, monitors, computers, projectors, camera, binoculars, movie projector, bus, video player, projectors (film or slide), av equipment for training outside the school, slide and film pojector, screen video and movie camera, software such as Environmental Education Training Manual, video and xerox, video camera, versatile camera, good tape recorder, supply of cassette and beta tapes, slides, photographic film, camera and accessories, slide projectors, car, audiovisuals, field kits such as pollution kits, illustrative charts, models, microscopes, binoculars, compasses, videos, vcr, videoramma vehicle, mobile van, projectors, microphones, demonstration fields, film projectors, videos, overhead projectors, typewriters, video camera, transport, audiovisual equipment and printed materials, wildlife and nature films, protable generator, books, a van and loudspeaker.

Funding for specific educational projects included:
Chao Phya River - its problems, and basic ways to stop pollution by the general public.
Construction of environmental education centers and completion of equipment for the center.
A proper education center.
Awareness generation in rural youth and villagers.
Organising competitions on environmental aspects and organising more and more ecodevelopment camps for school children.
Production of teacher's guides, posters for classrooms, etc.
Mobile environmental trainings.
Teacher training publications.
Developing environmental games for school children.
Acquiring audiovisuals, books, reports, posters, games or material which can be used creatively for environemntal education.
Environmental knowledge publications which have little publicity (chance for the sponsor to gain).
Printing leaflets, travel.
Environmental education continuum formulation, environmental roadshow for and by children, teacher training in farther parts of the Philippines, sourcebook on environmental/science education, materials for environmental education continuum.
Saturday is School Environment Day.
Environmental education for womens groups, youth, training for school teachers.
General environmental orientation.
Raising the awareness among the ecocell/women groups.

Awareness generation programmes for school principals, rural women, out-of-school children.
Sunderbans- quarterly magazine on environmental education for Bangladesh.
Promoting the need for environmental education amongst senior government staff
EIA for the layman.
Children's zoo.
Nature education camps, exhibitions, public contact programmes.
Nature walks,etc. for student groups, exposure for workers and students to other environmental action around the country.

Comments:
Fundraising is a joke for us. We put our own money, or collect money from the people.
If we have more hired staff, we can tap more volunteers.
Maybe a volunteer allowance.

Question 17. Please indicate which of the following are most needed for you to develop and improve environmental education programs.

	Frequency
Communication skills	19
Acquiring and understanding information on conservation	24
Scientific and technical skills	23
Environmental education teaching skills	41
Design and implementation of environmental education materials and programs	45
Administrative skills (including fund raising, planning, management)	31

A Survey of the Status and Needs of Environmental Education in Asia

Respondent Comments

Question 18. Are there any books, materials, and/or experiences regarding environmental education or institutional development that you have found particularly useful? Please list below any materials which you would recommend to other groups with similar needs to your own.

1. Magazines related to Nature Conservation such as "Parks" amd "Tiger Paper," "Voice of Nature" (Indonesia), slide programs prepared by WWF, films.

4. Conservation education in Royal Chitwan National Park by A.M. Shrestha, P.O. Nox 3094, Kathmandu, 1990. Conservation Communication in Nepal, 1987.

5. The experience of Kerala Sastra Sahitya Parishat (sp?) will be greatly interesting to many other organizations (ES?/WWF has a documentation publication on KSSP). Kalpavriksh, Delhi is a good example how brilliantly and effectively a non-formal youth group can work. (You many contact them at 1 Consf? Rd., Delhi-54).

6. Experiences -- wildlife and forests could be saved only by reducing the dependency of the villagers on forests and by their own will to save them -- by educating them.

7. Project Wild, Project Learning Tree, Environmental Education Institutions in USA (eg Murray State University).

8. Books, booklets, newsletters, and folders published by the Centre for Environmental Education, Thaltej Tekra, Ahmedabad, India, and Centre for Science and Environment, 907-Vishal Bhawan 95, Nehru Place, New Delhi-19-India.

9. Conservation education books (materials) prepared by American Peace Corps and National Audubon Society.

10. Video tape cassettes from US such as "Wild America" and " Wildlife Conservation."

11. International publications on nature and environment.

12. Conservation education books of American Peace Corps and UNICEF and His Majesty's Government's Educational materials.

13. Joy of Learning and posters, etc. developed by Centre for Environmental Education, Ahmedabad, India, 1986.

15. WALHI Newsletter, J? Penjernithan 1 Konpl Kenangon no. 15, Pyornpongon, Jakarta 10210. Sam-Appen, 43, Salsuen Rd., 10050 Penong, Malaysia. ECOFORUM, ELCI, P. O. Box 72461, Nairobi, Kenya. PURC News and Publications, De La Salle University Research Center, 2401 Taft Avenue, Manila, Philippines 1004.

20. International Zoo Year Book (every year).

21. Books, booklets, and folders published by Centre for Environmental Education Thaltej Tekra, Ahmedabad - India and Centre for Sc. & Environment, 807 Wishal Bhawan 95, Nehru Place, New Delhi - 19 (India).

22. Citizens' Reports published by Centre for Sc. & Environment, Delhi, State of the World Reports by WW Institute; videos - any no. "Nature," "New Scientist," "Discovery," and such other journals.

23. The Book of Indian Birds by Dr. Salim Ali. The Book of Indian Mammals by S. A. Prater. The Book of Indian Reptiles by J.C. Daniel. Some beautiful trees.

24. Consumer newspaper, monthly paper of Consumers Association of Penang, 87 Contonent Rd. 10250 Penang and many others.

26. Ecological Recovery Prospects and McKean Institute's Publication Land Development Department. Flip charts (Thai) University Women's Association. Posters (Thai).

28. 1. A reasonably concise summary of environmental education - both U.S. and international experience. 2. An annotated listing of environmental education training courses and information resources.

29. World Resources annuals by World Resources Institute and IIED. State of the Ark by Lee Durrell, 1986, Double Day and Co., N.Y. To Care for the Earth by Susan McDonough, Claretian Pub., Q.C. Philippines. Toward a Human World Order by Gerald and Patricia Gische, Paulist Press, N.Y.

30. In conducting ecological orientation seminars, the dialogue process and interaction among participants is most improtant. a. Thomas Berry. Dream of the Earth, 1988.
b. Vincent Busch. The Human Soil, 1987. Claretian Publications, Philippines.
c. Sean McDonagh. Hope for the Seeds, 1989. To Care for the Earth, 1986. Claretian Publications, Philippines.

32. How to plan a conservation education program, International Institute for Environment and Development, United States Fish and Wildlife Service.

33. Primary materials we use would come from newsletters and publications from groups specializing in environmental education like Survival International, Audubon.

34. As stated above, the camp to camp approach makes the whole idea short-term and a lot of people believe we shall soon disappear. So, we need a small, yet well-equipped, center and some "assurance" for long term funding.

35. 1. Concept of compensation in the field of trade and the Environment.
2. Survey of current developments in International Environmental Law.
3. Youth in Environmental Action: An International Survey.
4. World Conservation Strategy: A Programme for Youth.
5. Environmental Education about the Rainforest.
6. Global Status of Mangrove Ecosystem.
All books published by IUCN.

36. Problems of the Environment by Peter F. Brooks, 1974.
The Human Impact on the Natural Environment by Andrew Goudie, 1981.
Introduction to Environmental Science by Joseph M. Moran, Michael D. Morgan, and James H. Wiersma, 1980.

37. The film on animal conservation called "Say Good-bye." A book called Environmental Ethics.

39. Wildlife Fund Thailand information and publications. Publications from Thailand National Environment Board. Material and resources of Panakorn Teacher College Bangkok Thailand.

40. Diana Woods "Managing an NGO."

43. 1. State of India's Environment by C.S.C. New Delhi, edited by Anil Ageural?
2. Chipko Experiences, edited by s. S. Kunurar. Published D.G.S.M. Gopeshurar (Chamoli?)/ India.

44. Environment Status Report from various countries.
Video films on Environment from various countries.

45. David Selby, S.G.G.P. Earth Rights. 1987. London.
Lewis Thomas. Environmental Education in Asia and Pacific. June, 1981. Bangkok, Thailand.

46. Prior knowledge or look-see of the target audience as well as their specific environment should guide the thrusts that environmental education should take. Environmental education should be site specific to be effective.

48. Forest Farming - CR Reumanalhan, Ganapalhi palayaya, udumalapeba Taligr, Taud Wadis - 642 122 (couldn't read this address). Resource Guide to Sustainable Agriculture, New-How (?) Centre, University of Minnesota, 1701 University Avenue, Room No. 202, Minneapolis, Minnesota, 55414. USA.

49. Teaching Environment Studies in the Primary and Middle School by L.H. Bolwell and C.J. Lines.
Conservation Education: A Planning Guide by David S. Wood and Diane Walton Wood - Peace Corps Information Collection and Exchange.

50. Printed materials produced by "ELC" Kenya and UNEP are most useful.

52. TATA energy bulletins.

53. Leaflets on environmental issues, songs, action drama, training workshops/symposia.

54. Environmental education becomes effective/successful when the program started or considered the target locality, groups, burning problems related to the environment. Direct involvement in their specific environmental issues and solving the same. Nonformal, vernacular way of communication is effective.

55. The work of WWF-UK in promoting environmental education within the formal school system.

63. State of Environment of India - CSE, 1986, Delhi.

64. Films, slide, books.

66. There are a number of books, but we find that the following regular publications will be of interest to many:
1. Society for Promotion of Wastelands Development. Shriram Bharitya Kala Kendra Building. 1, Copernicus Marg. New Delhi -110 001. 2. APPEN. 43 Salween Road, 10050, Penang, Malaysia.
3. IRED FORUM. 3 rue de Barenbe, Case 116. 1211, Geneva 20, Switzerland. 4. CHETNA NEWS. CHETNA. Second Floor, Drive-In-Cinema Building. Ahmedabad - 380 054.

67. 1. Running eco-clubs in schools.
2. Using creative drama, art, and music as media for communication of values.
3. Local specific projects such as building toilets, monitoring noise pollution, survey water pollution, etc.

68a. Klaus Berkmuller, 1981. Guidelines and Techniques for Environmental Interpretation. The University of Michigan, Ann Arbor, Michigan 48109 USA. Connect (UNESCO-UNEP Environmental Education Newsletter) Vol. XI, No. 4, December, 1986. UNESCO 7 place de Fontenoy, 75700 Paris, France.

68c. Sel books related to the environmental education programs.

Question 19. We would be very interested to hear any comments that will help us support environemntal education more effectively.

1. Besides the low level of environmental awareness of the people, the most official problems to notice are: lack of staff, leak of knowledge and skill in communication (especially to conduct environmental education) and also shortage of facilities and equipment.

2. More publicity, activities and programmes that will benefit general members of the public.

4. Very commendable efforts.

5. You should not try to misdirect local organizations with your funds. Let them develop themselves, face their own problems, and develop their own perceptions and activities. Enormous amounts of money could be raised from local sources (mainly the people), a good example is KSSP. Let money not decide the priorities and perspective. We have a lot of faith in WWF- India, but not in WWF International, because you are genuinely undemocratic and somewhat resembling a colonial entity.

6. Let us divert our attention on nature conservation from urban to rural population.

7. Since the project is at a very early stage, we need more time for evaluation/comments. However, 1. sponsoring development of localised educational materials (eg posters, folders with activity packs). 2. sponsoring candidates from schools for training/study tours on merit basis will enhance environmental education in broad aspect.

8. Efforts of Rajasthan Vigyan Shiksha Parishad has been that environmental education in schools can be more effectively given by organizing eco-development camps and nature camps. Environmental awareness can be effectively developed by cultural activities based on environmental aspects. Cultural activities leave a permanent impresssion over the hearts of students and youths.

9. Activating the school students and teachers forming "education/ awareness action cells" and promoting programs through them appears the most effective method for environmental education program for us.

10. I knew from my last visit to Washington, D.C. that now a day U.S.A. produce and collect a lot of video tape casesettes about wildlife conservation from around the world but these are not in same system (frequency) as in Asia. It would be better if these productions are VHS video tapes and fit for the equipment in Asia and donated to the countries in this area.

12. A few demonstration programs jointly with local groups in rural districts should be conducted. The results must be visible to beneficiaries. A mobile educational van fully equipped with visual aids and other educational materials may be useful for rural education program. Curriculum and trained manpower is essential.

13. Establishment of a clearinghouse for information would be very helpful. Also, we would appreciate receiving copyright free materials from similar organizations and would be happy to share ours. Assignments to local WWF or IUCN to produce/collate information about local environment should be given, so that NGO's like ours can use/interpret them according to our needs.

14. It would be very helpful for groups who go into environmental education if there is constant exchanges from other groups who also do environmental education especially on the techniques they use and lessons derived from acutal conduct of seminars or workshops.

16. Send us environmental education materials for dissemination to educational institutions in the Philippines.

17. Building institutional capabilities within NGO's should be a high priority need.

20. Environmental education is very important for a poor country like Thailand. We need many information -- how, why, when, what for the people to know to keep good environmental.

21. Experience of Paryavarau Parishad Kota has been that environmental education in schools can be more effective by organising Eco-Development and Nature Camps very frequently for a period of not more than 5-7 days. And in villages traditional folk media should be utilized for educational- entertainment programmes in local dialect. Paryavarau Parishad Kota is confident of spreading the message of environmental conservation through the above means.

22. Environmental education should primarily be supported from local resources. But some very good materials - reports, films, journals, and videos are too expensive for us to purchase. Maybe, WWF can purchase them for us.

23. Environmental education is essential for nature conservation. The general public, particularly the school children and the young generation should be reached out through as many voluntary organizations as possible. There can be no competition in environmental education. The harvest is big, the reapers are few.

24. Funding provision, publication and information provision.

26. 1. Study tour specially designed for villagers/leaders to see successful programmes and practical steps. 2. Educational materials (pamphlets, posters, videos, slides, etc.) specially designed for village level audience. 3. Easy to read/simplified reports or information on environmental papers/projects.

27. Increase the amount of funds for education and training of personnel in the program are essential to any organization.

28. Perhaps more fellowships for in depth training of LDC Environmental educators.

29. Many publications especially journals are so excellently produced in contnt depth and breadth in First World countries but the cost is prohibitive for developing countries. If these could be made available at lower rates, it would enhance the information base of environmental educators. Funding for AV materials on local environmental issues is likewise needed for public education.

30. The focus of environmental education has to be the community. The education must also help people crystalize the idea of sustainable development. In places like the Philippines, environmental education must be fast and massive. Integration of environmental concerns in all activities, especially development projects, is very important. WWF can support more environmental education efforts which stress participation of communities in environmental protection and in clarifying the role of humans in the total earth community.

31. You may consider setting up an information network and resource center and provide up-to-date information to participating organisations via newsletter. Exchange of information and sharing of experience of groups working in different countries would be beneficial. Organising seminars /workshops on environmental education would be helpful.

32. The need for environmental education is only recently being recognized. There is an urgent need to reach the most number of people in the soonest time possible. A pool of personnel should be trained to plan, implement, and manage an environmental education program.

33. A group in Bangkok has a campaign on environmental awareness that is very effective for children and adults, as well. These types of campaigns should be encouraged in all countries and is a good example we may use in the Philippines. The group's name is Thai Environmental and Community Development Association (333 Silom Road, Bangkok, Bangkok). You might want to communicate with them. An issue that we are particularly interested in is that of Lagun Lake in the Philippines which many call the dying lake. It is the largest lake in southeast Asia and presently beset with ecological problems. You might be interesed in this. We still have to find ways for educators and looking for techniques/strategies towards protection and conservation.

34. We have found that educational material must be developed locally. The process is part of the education. But, we need to have the ability and capacity/resources to produce these materials (audio-visual/printed matter/ hands on or do-it- yourself projects). Nepal being rough and difficult to move around in, field staff need a lot of equipment and costs are higher as we move further away from urban centers. One also needs to project the programs as being long-term and not a one time "stunt."

35. 1. Organize national and international seminars.
2. Organize workshops and study tours on national and international level.
3. Youth exchange programmes.
4. Regular discussions with professionals and specialists in national and international level.
5. Organize national level refresher courses.
6. Public lectures.

36. In order to create awareness and uprise the young generation about environmental education, it is necessary to revise the present curricula at primary, secondary and at the college level where environmental education should find a place as a compulsory subject.

37. We will appreciate if you can send us about the tentative schedules of seminar/conference on workshop on environmental education in other countries.

38. Need for more training material adapted to local conditions and prepared in local languages.

39. A bimonthly list of publications related to environmental issues from around the world and contact address would be appreciated.

40. This was difficult to do because "environmental education" is such a broad topic. I think it might facilitate more direction if you defined what you meant more clearly. I have taken it to be both mobile education/TEAM project and public awareness communications. Hope it is useful to you.

44. Actions in the field through conservation camps etc. are more useful than more theoretical knowledge.

44. Our Project "Saturday is School Environment Day" in all schools has not only (?) been appreciated by experts in India but also from other Asian and European countries. If the WWF supports such projects in all countries, it will be most useful.

45. 1. Women groups have to be involved at every stage.
2. The Youth Groups have to be given training to carry on environmental awareness programmes under the guidance of big non-governmental organisations.
3. The primary and secondary school teachers have to be given training for at least three days in a year.
4. Liberal financial assistance has to be provided to the non-governmental organisations to carry on the above programmes.

46. An environmental education program should address the needs of the people in terms of information and alternative technologies.

47. Give us some information on strategy, tools, materials, etc. Invite us to attend several meeting/workshop on the relevant topics.

48. Promotion of sustainable agriculture groups. Translation of environmental laws into local languages. Action programmes.

49. In retrospect, it's extremely important to target your audience and then plan to reach out to that audience effectively. Trying to reach out to too wide an audience is fatal!

50. NGO's should have access to all the materials pertaining to development at local, state, national, and international levels which is sure to help campaigning and environmental education dissipation.

52. Educational and training programmes with audio-visual aids for school/college students and general public in local languages.

53. Needs/problems regarding environmental education have to be identified and development of materials/programs according to the situation/level of participants need to be considered seriously. Development of evaluative role in environmental education is also important.

54. Although the biotic and abiotic component of different countries of similar biogeographic realm are more cr less the same, mode, methodology, and way of resource exploitation by the human beings are different. So, for conservation point of view, the prescriptions of environmental education should be based upon the traditional users rational thinking, not the basis of the books only. Before teaching and learning the people living inside or adjacent to the natural resources, the trainer or teacher should learn the socio-culutral background or the trends of the locality and the people. For the urban community, the adverse effect of their resource exploitation rate should be emphasized in the education program, i.e. curricula of schools and colleges.

55. The national school curriculum should be exploited to incorporate environmental education. There may not be changes in the syllabi but environmental education activities should be promoted where it fits in the present systems.

58. More effort and money should be put in by large organisations like WWF for environmental education in Malaysia.

60. To raise the public awareness, cheap and beautiful booklets (field guides) of common birds, flowers, insects would be very useful, I believe.

62. Our organisation - Curriculum Development Centre, Ministry of Education Malaysia - already designed a curriculum "Man and his Environment" which includes environmental education. This curriculum is specially for primary school and has been implemented since 1982.

64. We need books and periodicals published from different parts of the world on ecology, conservation, etc. Some wildlife and conservation films, and slides on the subject. Having a portable generator and a van will have added advantage in spreading the message. At present, we have some books in our library, a slide projector, and a 16 mm sound projector.

66. Supply of low cost educational material. Funds to selected organizations for translating into local languages. Arrangements with government or other agencies for guided (subsidised) tours in reserved forest areas. Increase networking among NGO's and NGO's and other environmental protection agencies.

67. Voluntary organisztions need to be supported with funding and training programmes for personnel to ensure sustained and effective interactive programmes.

68a. Environmental education is a critical need to save the world from possible speed up of devestation. It has to be done integrally and in all levels of public both in developing countries who are seriously faced with how to suppress poverty and gain higher standard of life and in developed countires who are higher consumers of natural resources. Environmental education especially Nature Conservation Programme mainly should be intended to the local community and the developers/public users and should be given integratedly with clear information about the targets which will be achieved by environmental education. Environmental education should be given through informal and formal education from lower level to the top level.

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Project Learning Tree. Western Regional Environmental Edcuation Council and American Forest Foundation. Contact Project Learning Tree, 1250 Connecticut Ave. N.W., Washington, D.C. 20036 USA. An interdisciplinary, supplementary environmental education curriculum guide emphasizing trees. Secondary and primary guides available by attending a workshop.

Teaching Conservation in Developing Nations by Judith Brace, Ralph R. White and Stephen C. Bass. The Peace Corps and the National Audubon Society. Contact: Peace Corps INfomation Collection and Exhcange, 806 Connecticut Avenue, NW, Washington, DC 20526 USA. Tel. (202) 254-7386 or 1 (88) 424-8580 ext. 228. Free. A how-to manual for Peace Corps Volunteers and other development workers involved in environmental education.

Conservation education books of American Peace Corps and UNICEF and His Majesty's Government's Educational materials.

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How to Plan a Conservation Education Program by David S. Wood and Diane Walton Wood. International Institute for Environment and Development, United States Fish and Wildlife Service. Contact: International Institute for Environment and Development-North America, World Resources Institute, 1717 Massachusetts Ave., N.W.; Suite 302, Washington, D,C, 20036 USA. May be reproduced and/or translated with acknowledgement to FWS and IIED for such use. Free.

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Thinking Globally and Acting Locally: Environmental Education Teaching Activities by Lori D. Mann and William B. Stapp. 1982. 305 pp. Contact: ERIC Clearinghouse for Science, Mathematics and Environmental Education, The Ohio State Unversity, 1200 Chambers Road, Third Floor, Columbus, Ohio 42212 USA. Tel. (614) 292-6717, $12.50 payable in advance to SMEAC/OSU. The 17th volume in ERIC/SMEAC's Teaching Activities in Environmental Education, this guide includes locally applicable activities that provide global awareness in a formal or nonformal educational setting.

Teaching Activities in Science, Society, Technology, Environment by John F. Disinger and Marylin Lisowski. 1986. 150 pp. Contact: ERIC Clearinghouse for Science, Mathematics and Environmental Education, The Ohio State Unversity, 1200 Chambers Road, Third Floor, Columbus, Ohio 42212 USA. Tel. (614) 292-6717, $12.50 payable in advance to SMEAC/OSU. The 19th volume in ERIC/SMEAC's Teaching Activities in Environmental Education, this guide consists of teaching activities for primary and secondary schools

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Acclimatization: A Sensory and Conceptual Approach to Ecological Involvement by Steve Van Matre. 1972. 138 pp. The Institute for Earth Education, Box 288, Warrenville, Illinois 60555 USA. Tel: (312) 393-3096. $7 plus shipping, prices determined by current exchange rates. A sensory and conceptual approach applicable to youth camps, nature centers, and outdoor schools. IEE also published Sunship Earth: An Acclimatization Program for Outdoor Learning by Steve Van Matre. 1979. 265 pp. $13.50 plus shipping.

The Class Project. National Wildlife Federation and National Science Foundation. 1982 (being updated). 134 pp. Contact: The Class Project, Education Department, National Wildlife Federation, 1412 Sixteenth Street NW, Washington, D.C. 20036 USA. Tel. (703) 790-4297. $8 plus shipping payable to National Wildlife Federation. The Class Project (Conservation Learning Activities for Science and Social Studies) is a six module curriculum guide focusing on natural resources and management for upper primary grades.

Environmental Education about the Rain Forest by Klaus Berkmuller. 1984. 132 pp. Contact: EDRS, 3900 Wheeler Avenue, Alexandria, Virgina 22304-5110 USA. Tel. (703) 823-0500. $11.10 plus postage, order by ED 274 558. Handbook to develop an educational program on tropical forests incorporating attitudes and values.

Living Lightly on the Planet: A Global Environmental Education Curriculum Guide Volumes I and II by Maura O'Conner. 1987-88. Contact: Schlitz Audubon Center, 1111 East Brown Deer Road, Milwaukee, Wisconsin 53217 USA. $15 per volume plus shipping payable to Schlitz Audubon Center. Other guides including Living Lightly in the City are available.

The Nature Specialist: A Complete Guide to Programs and Activities by Lenore Hendler Miller. 1986. 170 pp. Contact: ACA Bookstore, American Camping Association, Bradford Woods, 5000 State Road 67 North, Martinsville, Indiana 46151-7902 USA. Tel. (317) 342-8456. $29.95 plus $4.50 shipping outside the US. A comprehensive program of over 70 nature activities for teachers and camp naturalists.
ACA has many other publications available.

Naturescope, edited by Judy Braus. Contact: National Wildlife Federation, 1412 Sixteenth Street N.W., Washington, D.C. 20036. Tel. (703) 790-4297. Subscription cost $30 per year for five issues outside the US. Discounts for multiple subscriptions and single copies. This is an on-going natural science and environmental education series including teaching units. NWF has other publications and programs available.

Reporting on the Environment: A Handbook for Journalists. Asian Forum of Environmental Journalists and United Nations Economic and Social Commission for Asia and the Pacific. Bangkok Thailand. 1988. United Nations Building, Rajadamnern Avenue, Bangkik 10200, Thailand.

Science for Survival: Plants and Rainforests in the Classroom by Adam Cade. 1988. World Wildlife Fund-UK Environmental Education Project. The Richmond Publishing Co., Ltd., Orchard Road, Richmond, Surrey TW9 4PD England. ISBN 0-85546-351-1.

Essential Learnings in Environmental Education: A Database for Building Activities and Programs. 1990. 176 pp. Contact: North American Association for Environmental Education, PO Box 400, Troy, Ohio 45373 USA. Tel. (513) 339-6835. Handbook listing 600 environmental education concepts by topic, type, learning level, and obejective.

WWF

World Wildlife Fund

SURVEY ON STATUS AND NEEDS OF ENVIRONMENTAL EDUCATION

IN ASIA

Purpose of Survey:

To determine the environmental education activities being conducted in Asia and plan ways in which World Wildlife Fund, the Smithsonian Institution, and other international private or government agencies working on conservation can best assist the expansion, development and implementation of environmental education programs in Asia.

All participating organizations will receive the final survey results, a colorful WWF calendar, and possible assistance in environmental education.

Instructions:

Each organization's approach to environmental education is different. As a result there are no right or wrong answers to this survey. Your responses will be most helpful if they accurately reflect the status of environmental education within your organization.

Most of the questions ask that you check-off correct items and answers. There is space to write additional comments. The survey takes about 45 minutes to complete.

1250 Twenty-Fourth Street, NW Washington, DC 20037 USA 202/293-4800 Telex: 64505 PANDA
Affiliated with The Conservation Foundation

We need better information on the size and resources of groups conducting environmental education in Asia. Questions 1-6 ask for information about your organization.

1. Indicate the <u>type of organization</u> you represent (select only one).

   _____ Formal education institution

   _____ Non-formal education institution (Nature reserve/national park)

   _____ Non-formal education institution (Zoo/botanical garden)

   _____ Government resource management/policy agency

   _____ Non-governmental organization

   _____ Other

2. How important is environmental education in your organization's overall program?

   _____ Very important

   _____ Moderately important

   _____ Not important

3. How many people (both salaried and volunteer) conduct your organization's <u>environmental education</u> activities?

   Paid - number: _____

   Volunteer - number: _____

4. How much does your organization spend (approximately) each <u>year</u> on <u>environmental education</u> (including donated services)?

   _____ US$ 0 - 499

   _____ US$ 500 - 999

   _____ US$ 1,000 - 4,999

   _____ US$ 5,000 - 9,999

_____ US$ 10,000 - 19,999

_____ US$ 20,000 - 49,999

_____ US$ 50,000 - 99,999

_____ US$ 100,000 +

5. Please estimate what percent of your organization's resources (money, staff, and volunteer hours) are devoted to <u>environmental education activities</u>.

_____ %

6. How long has your organization conducted <u>environmental education</u> programs?

_____ Less than one year

_____ 1 - 2 years

_____ 3 - 5 years

_____ 5 - 10 years

_____ 10 + years

Questions 7 - 12 ask about the purpose of your environmental education programs, the audiences you work with, and the environmental education activities your organization conducts.

7. Please estimate what percent of your <u>environmental education effort</u> is devoted to the following types of programs. (Total should add to 100%.)

_____ % Public awareness (newspaper, radio, t.v., posters, etc.)

_____ % Formal education (primary or secondary schools)

_____ % Formal education (university level)

_____ % Teacher training

_____ % Training of community leaders

_____ % Informing government officials, legislators, and decision makers

_____ % Non-formal education (museums, youth groups, zoos, nature walks, park visits, etc.)

Others, please specify:

_____ % _____

_____ % _____

_____ % _____

8. What <u>audiences</u> are you trying to reach? Please check the appropriate answers from the following lists.

<u>Age/School level</u>

____ Pre-school

____ Primary school

____ Middle/secondary school

____ University level and higher

____ Under 18 years of age with little formal education

____ Over 18 years of age with little formal education

<u>Geographical location</u>

____ Urban: large city

____ Urban: small city

____ Rural: villages/communities

____ Rural: remote

____ Adjacent to protected areas or nature reserves

<u>Profession or Occupation</u>

____ Rural resident or resource user (farmer, fishermen, etc)

____ Government official

____ General public

____ Community leader

____ Teacher

____ Professional (administrator, manager, scientist, etc)

____ Student

____ Other, please specify: _____

9. The primary reason you are trying to reach these audiences is to: (Please check the one most significant reason.)

_____ Provide accurate information about the environment/wildlife

_____ Provide scientific information or data

_____ Make people more aware of the environment and their relationship to it

_____ Influence people's attitudes towards the environment/wildlife

_____ Encourage positive activities with long-term benefits (i.e. tree planting on hillsides)

_____ Modify activities that have negative environmental impacts

_____ Improve the quality of life and ensure sustainable resource use for future generations

_____ Solve specific environmental problems

_____ Enact legislation to protect resources

_____ Enforce environmental protection laws

_____ Protect endangered species

_____ Other, such as:

_____

_____

10. Below is a list of common environmental education tools. Please check the tools that your organization has used <u>most frequently</u>.

_____ Printed materials (posters, brochures, etc)

_____ Newsletters

_____ Direct mail

_____ Audio visual materials (slide programs, videos)

_____ Mass media (radio, t.v., newspapers)

_____ Information center or clearinghouse

_____ Exhibits in nature center, museum, zoo, or other public place

_____ Traveling/mobile exhibits and programs

_____ Public lectures

_____ Events (theatre plays, puppet shows, concerts)

_____ Contests (song, art, essay, photography, poetry)

_____ Community surveys

_____ Community meetings

_____ Interpretive activities (such as guided nature walks)

_____ Field trips, excursions to natural areas

_____ Activities (such as reforestation, protect an endangered species, garbage collection, etc.)

_____ Classroom activities (indoors and outdoors)

_____ School curricula or teacher guides

_____ Others, please specify:

_____

_____

_____

10a. Please look back over the previous list and circle the four tools that you feel have been most successful.

11. The level of success of environmental programs can be measured by a variety of methods, and evaluation is important. Evaluation methods can be informal such as observing changes in attitudes and actions towards the environment, an increased level of interest, membership in environmental organizations, or participation in events, programs and activities, or formal evaluation using questionnaires and studies.

Which one or two of the following factors do you feel were most significant in contributing to the success of your environmental education activities?

_____ Ability to conduct effective training sessions

_____ Access to good information and education techniques

_____ Quality of publications or audio-visual materials

_____ Quality of staff

_____ Cooperation between organizations or individuals from other organizations

_____ Cooperation with local communities

_____ Ability of local organizations to continue project

_____ Continuity of activities

_____ Effective follow-up activities

_____ Other: _____

The training of staff members and volunteers is important for the success of environmental education programs. Questions 12-14 relate to the training of your environmental education staff.

12. How often does your staff receive training in environmental education?

_____ Frequently _____ Infrequently

_____ Almost never

13. Which of the following kinds of training in <u>environmental education</u> has your education staff (paid and/or volunteer) received?

_____ Formal degree studies at foreign universities

_____ Formal degree studies at domestic universities

_____ Workshops, study-tours, or seminars in-country

_____ Workshops, study-tours, or seminars abroad

_____ Informal: self improvement or on-the-job

_____ Inservice training program

_____ Exchange program with another conservation organization working on similar projects

_____ Discussions with colleagues, professionals, specialists

_____ Previously trained (university degree)

_____ No training

14. From your experience, <u>how effective</u> is the training listed above in preparing the staff to conduct environmental education programs?

_____ Very effective

_____ Effective

_____ No difference

_____ Fairly ineffective

_____ Not effective

Every organization has its difficulties. So that WWF can plan its programs more effectively, we would like to know more about such problems. Questions #15-16 refer to limitations that your organization may have encountered in developing and conducting environmental education programs and also the kind of support that might be helpful in overcoming these limitations.

15. Please indicate from the following list the <u>four most important factors</u> that <u>limit</u> your organization's ability to conduct <u>environmental education</u> activities.

_____ Low priority of environmental education within organization

_____ Insufficient funding

_____ Lack of fund raising capacity

_____ Lack of staff

_____ Lack of training opportunities for staff

_____ Low level of environmental expertise among staff

_____ Low level of educational expertise among staff

_____ High rate of turnover of staff or volunteers

_____ Lack of communication or coordination between organizations

_____ Difficulties working with other groups

_____ Lack of environmental awareness among the public

_____ Lack of buildings or facilities

_____ Lack of equipment and supplies

_____ Others, please specify:

_____

_____

16. Indicate the <u>four most important</u> types of support your organization <u>needs</u> to address the difficulties checked above. Please rank 1-4 in order of importance (1 being the most important).

_____ Personnel exchanges with other conservation groups

_____ Information on activities of other groups with similar programs

_____ Increased contact and coordination with other groups

_____ Assistance improving your group's organization/ structure

_____ Training in program design and development

_____ Program evaluation

_____ Training in fund raising

_____ Training on how to conduct environmental education workshops for community leaders and teachers

_____ Advanced staff training at a university

_____ Access to training opportunities (funding to attend; knowledge of when and where training is conducted)

_____ Access to information on available resources

_____ Educational materials (curricula, books, videos)

_____ Development and distribution of publications

_____ Ability to design and produce graphic and interpretive displays

_____ Ability to produce films, slide shows, videos

_____ Equipment and supplies

Such as: _____

_____

_____ Additional hired staff

_____ Additional volunteer staff

_____ Funding for specific educational projects

Such as: _____

_____

_____

_____ Other: _____

The final set of questions relate to environmental education needs and institutional development.

17. **In order to help us determine how to best assist your efforts, please indicate which of the following are most needed for you to develop and improve environmental education programs.**

_____ Communications skills

_____ Acquiring and understanding information on conservation

_____ Scientific and technical skills

_____ Environmental education teaching skills

_____ Design and implementation of environmental education materials and programs

_____ Administrative skills (including fund raising, planning, management)

18. Are there any books, materials, and/or experiences regarding environmental education or institutional development that you have found particularly useful? Please list below any materials which you would recommend to other groups with similar needs to your own. If a publication, please provide author name, title, and date and place of publication if possible.

_____

_____

_____

_____

19. We would be very interested to hear any comments that will help us support environmental education more effectively.

_____

_____

_____

_____

_____

_____

THANK YOU FOR COMPLETING THIS SURVEY

Please return via AIRMAIL by March 1, 1990 to:

Asia Program
World Wildlife Fund
1250 24th Street, NW
Washington, DC 20037
U.S.A.

(A self-addressed envelope is enclosed)

To receive a colorful World Wildlife Fund calendar, plus a summary of the results of this survey, please complete the following and return it with your survey.

Name _____

Title _____

Organization _____

Address _____

_____

_____